Name Key Period

Secondary 2 Unit 6 Review

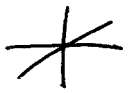
1. Evaluate $16^{\frac{1}{2}} = \sqrt{16} = 4$

2. Convert $4x^3$ to ~~rational exponent~~ radical form.

3. What is the exact value of the $\cos 30°$?

   1/2

4. List or draw one example of a relation that is a function and one example that is NOT a function.

   IS:  NOT 

5. Which of the following angles are ***not always*** congruent?

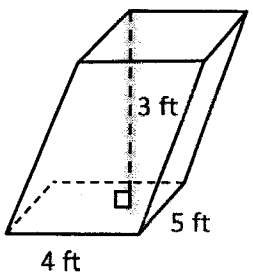
   A. corresponding angles
   B. alternate interior angles
   (C.) same-side interior angles
   D. vertical angles

6. If two triangles are similar, what must be true about them?

   A. all corresponding sides are proportional
   B. all corresponding angles are proportional
   C. all corresponding sides are congruent and all corresponding angles are congruent
   (D.) all corresponding sides are proportional and all corresponding angles are congruent

7. What is the volume of the figure on the right?

   $3 \cdot 4 \cdot 5 = 60 ft^3$



8. Which of the following statements is TRUE?

   If $\frac{a}{b} = \frac{3}{4}$, then

   A. $\frac{b}{a} = \frac{3}{4}$ B. $\frac{b}{3} = \frac{a}{4}$ (C.) $\frac{a+b}{b} = \frac{7}{4}$ D. $\frac{a}{3} = \frac{4}{b}$

9. What is the value of $\cos^{-1}\left(\frac{\sqrt{3}}{2}\right)$? $60°$

Simplify each polynomial expression.

10. $(6x-13)-(x+4)$

$5x-17$

11. $(7x+11)+(7x+4)$

$14x+15$

12. $(2x^2+13x+1)+(6x^2+4x-2)$

$8x^2+17x-1$

13. $(-8x^6+5x^5-3x^4-x^2)+(9x^6-6x^4+3x^2+7)$

$x^6+5x^5-9x^4+2x^2+7$

14. $(6x^2+5x+4)-(3x^2-2x+1)$

$3x^2+7x+3$

15. $8x(5x+3)$

$40x^2+24x$

16. $x(7x^2-4x+1)$

$7x^3-4x^2+x$

17. $-3x(8x^3-5x+9)$

$-24x^4+15x^2-27x$

18. $(x-1)(3x+4)$

$3x^2+x-4$

19. $(8x-6)(3x+4)$

$24x^2+14x-24$

20. $(3x+2)(7x^2+3x+10)$

$21x^3+9x^2+30x+14x^2+6x+20$

$21x^3+23x^2+36x+20$

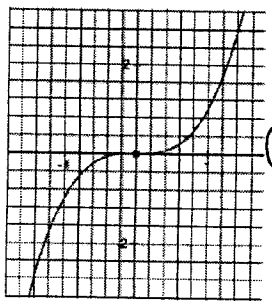
21. $(-3x^2-4x+5)(5x-4)$

$-15x^3+12x^2-20x^2+16x+25x-20$

$-15x^3-8x^2+41x-20$

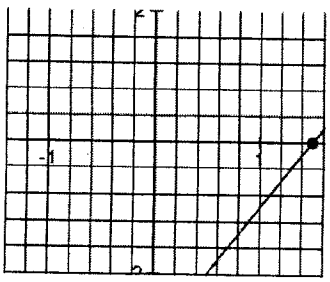
Label as Cubic, Quadratic, Linear, or None.

22.



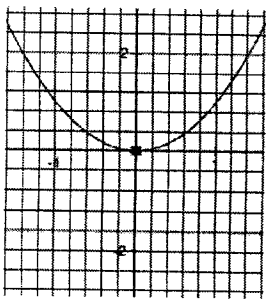
cubic

23.



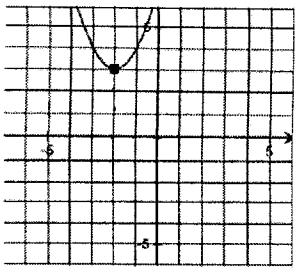
linear

24.



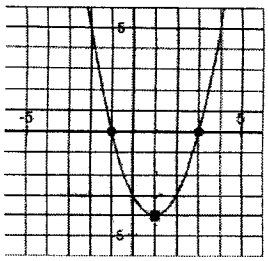
quadratic

Write an equation in graphing form for the following graphs.

25. 

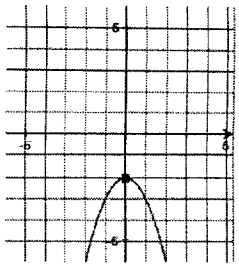
(-2,3)

$f(x) = (x+2)^2 + 3$

26. 

(1,-4)

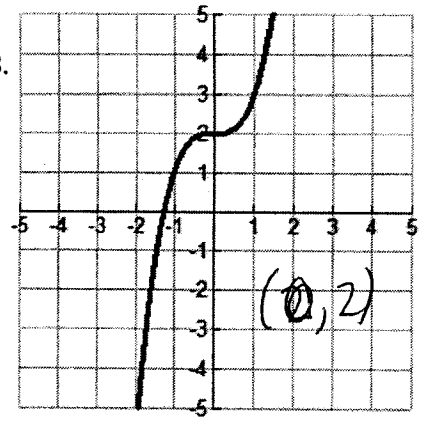
$g(x) = (x-1)^2 - 4$

27. 

(0,-2)

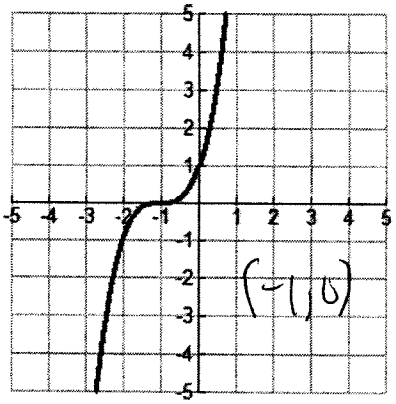
$h(x) = -(x-0)^2 - 2$

$h(x) = -x^2 - 2$

28. 

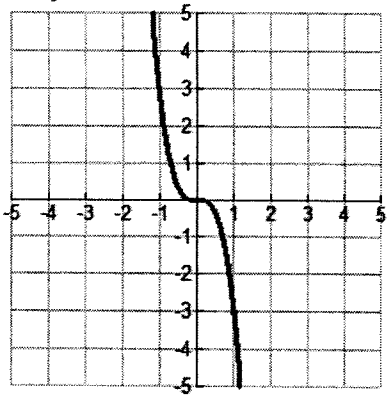
(0,2)

$f(x) = (x-0)^3 + 2 = x^3 + 2$

29. 

(-1,0)

$g(x) = (x+1)^3$

30. 

$h(x) = -3(x)^3 + 0 = -3x^3$

List the vertex/inflection point of the following functions.

31. $f(x) = (x+7)^2 - 3$

Vertex: $(-7,-3)$

32. $g(x) = x^2 + 2$

Vertex: $(0,2)$

33. $h(x) = (x-6)^2$

Vertex: $(6,0)$

34. $f(x) = -5x^3$

Inflection Pt: $(0,0)$

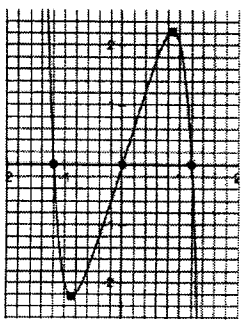
35. $g(x) = (x+4)^3 - 3$

Inflection Pt: $(-4,-3)$

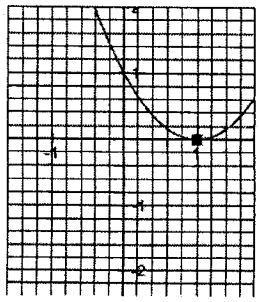
36. $h(x) = (x-5)^3$

Inflection Pt: $(-5,0)$

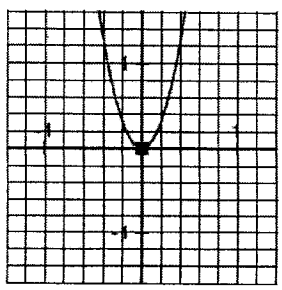
Label as Even, Odd, or Neither

37. 

odd

38. 

neither

39. 

even